DECODING 16 PROBES

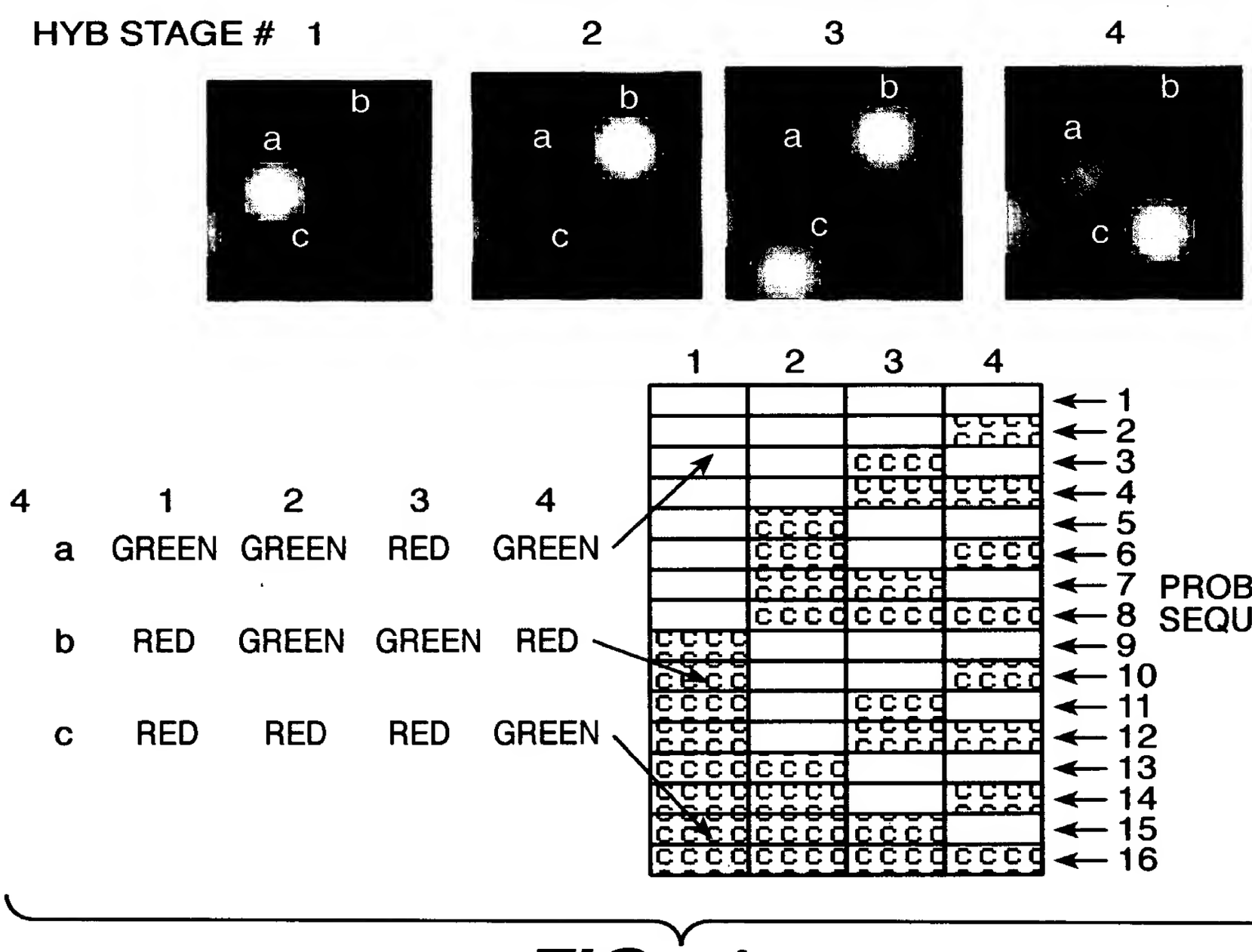

FIG._1

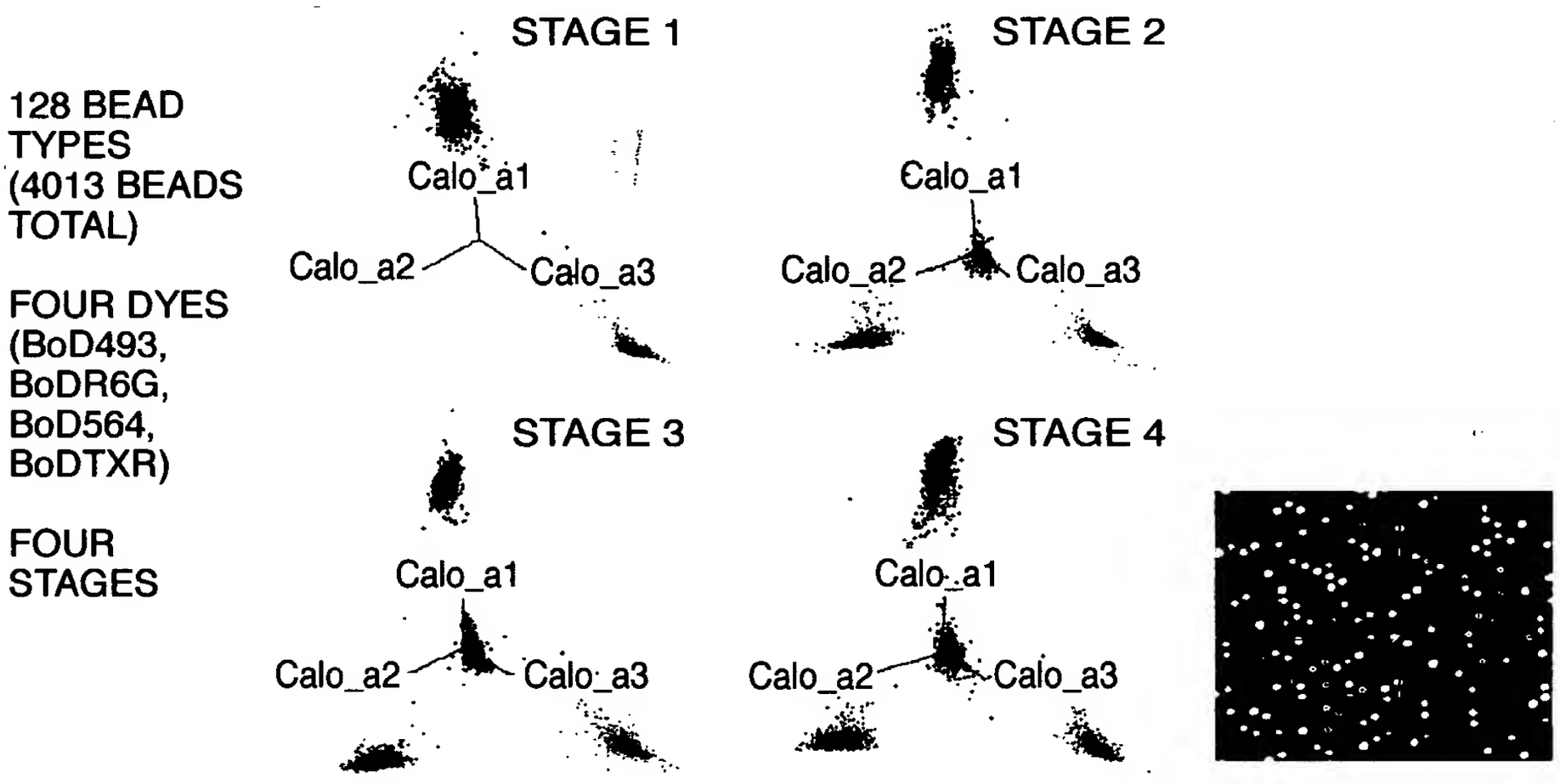

FIG._2

CODE	S1	S2	S3
1	100	100	100
2	100	100	40
3	100	100	10
4	100	40	100
5	100	40	40
6	100	40	10
7	100	10	100
8	100	10	40
9	100	10	10
10	40	100	100
11	40	100	40
12	40	100	10
13	40	40	100
14	40	40	40
15	40	40	10
16	40	10	100
17	40	10	40
18	40	10	10
19	10	100	100
20	10	100	40
21	10	100	10
22	10	40	100
23	10	40	40
24	10	40	10
25	10	10	100
26	10	10	40
27	10	10	10

FIG._3A

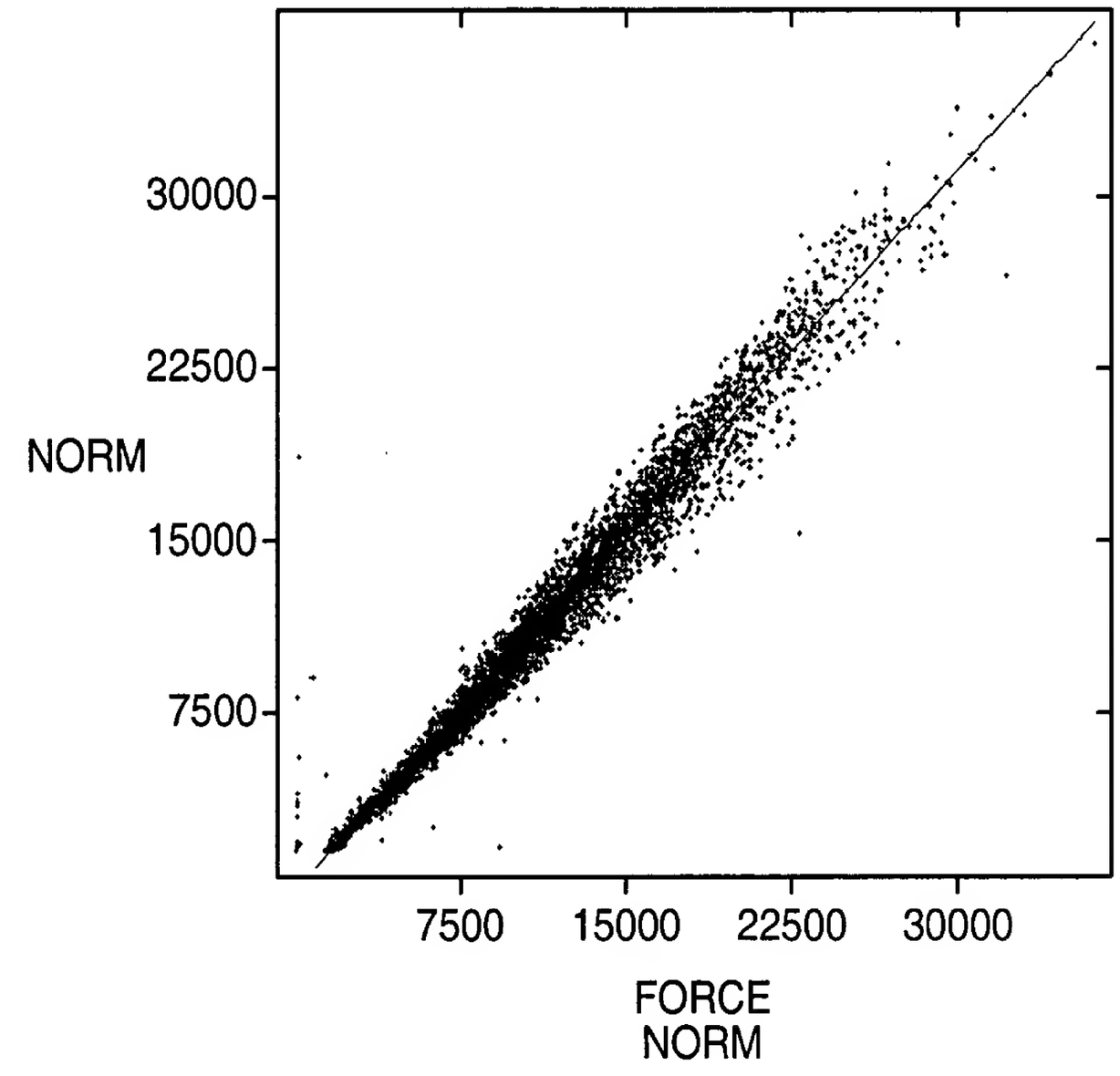

FIG._3B

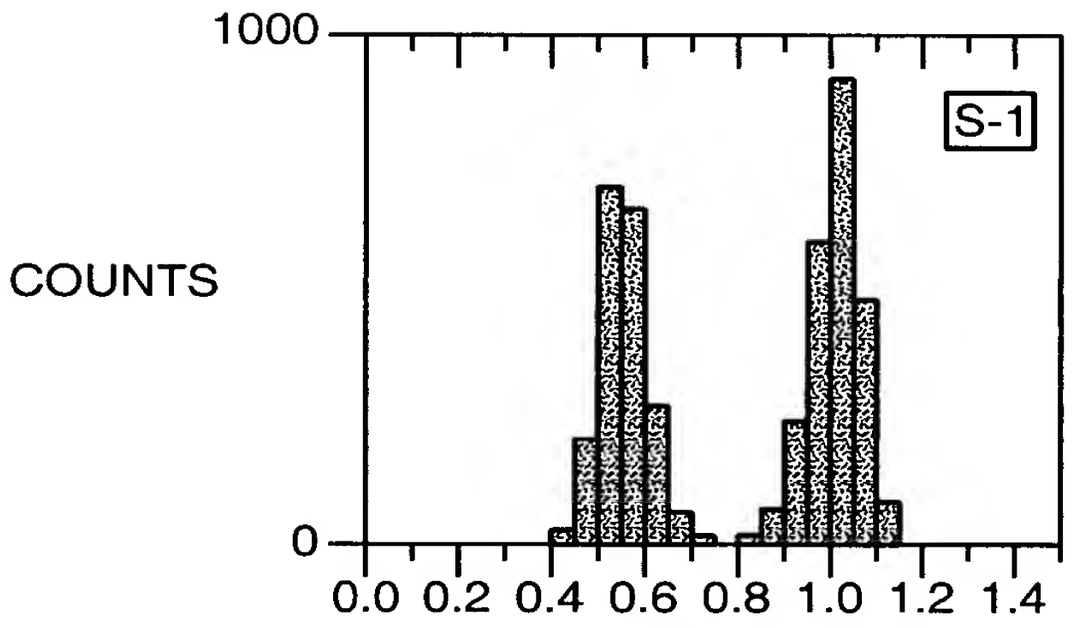

FIG._3C

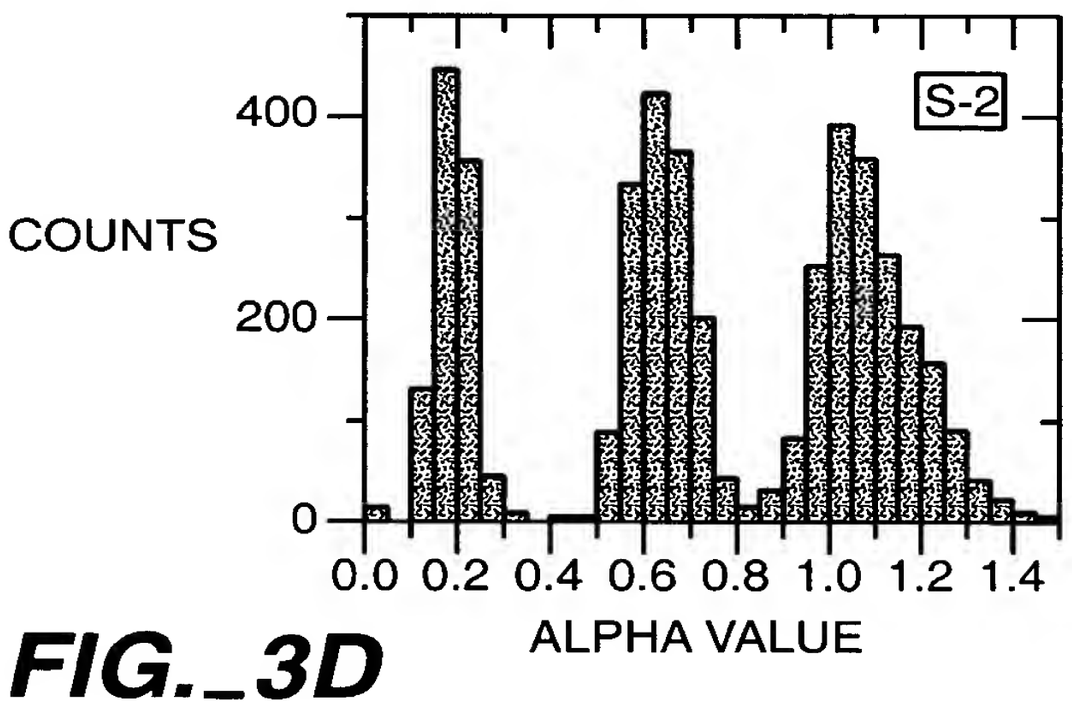

FIG._3D

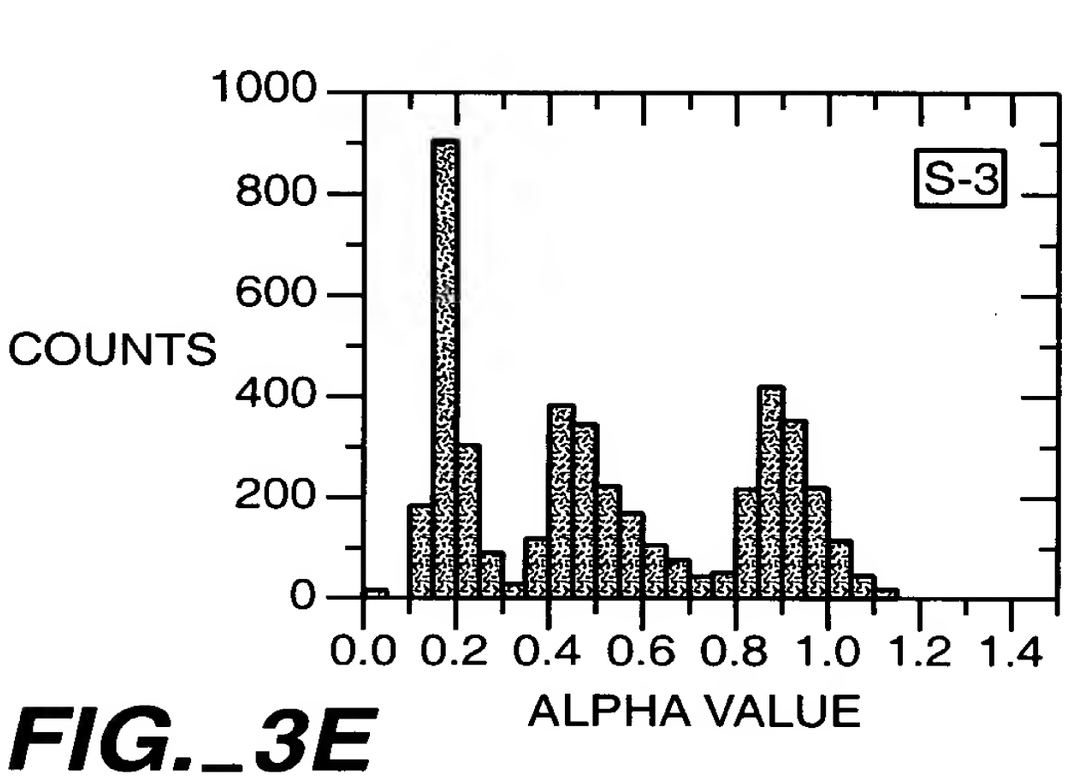

FIG._3E

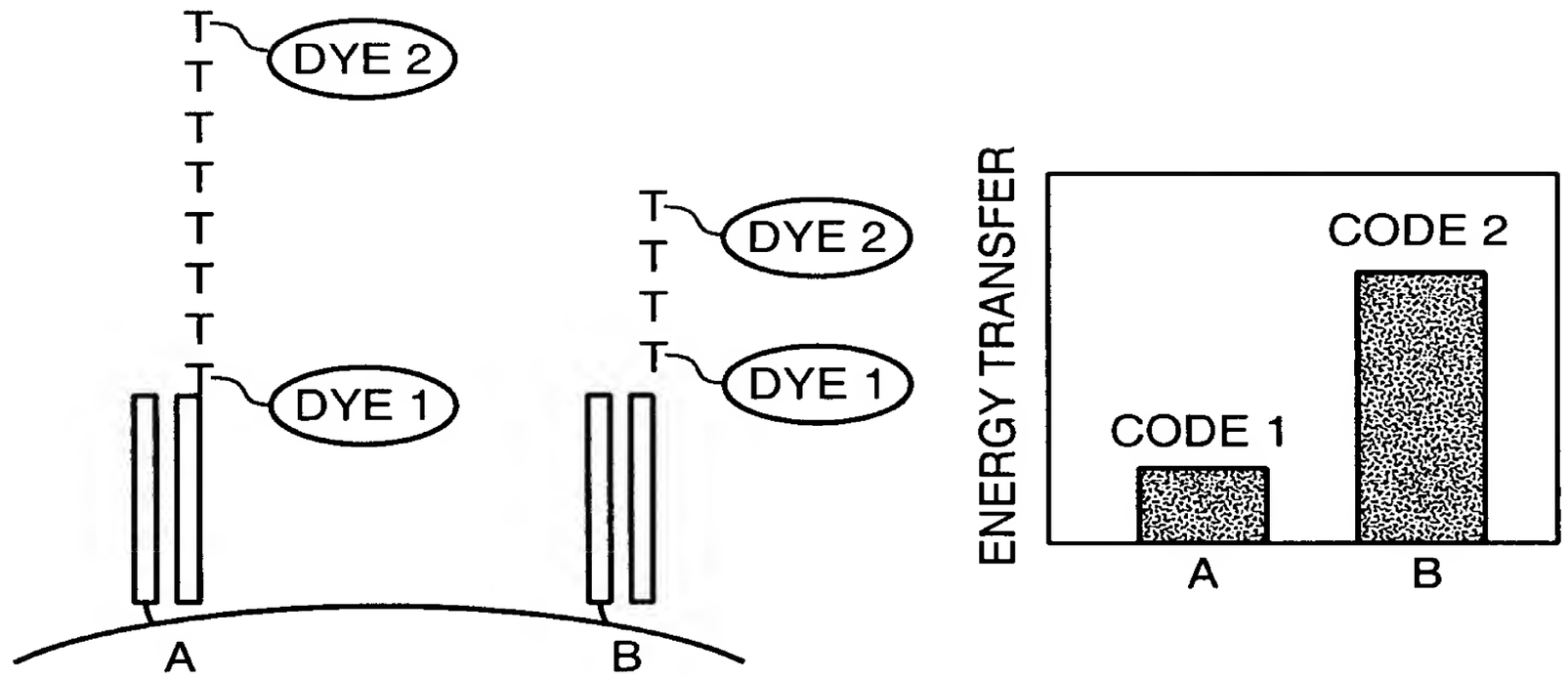

FIG._4

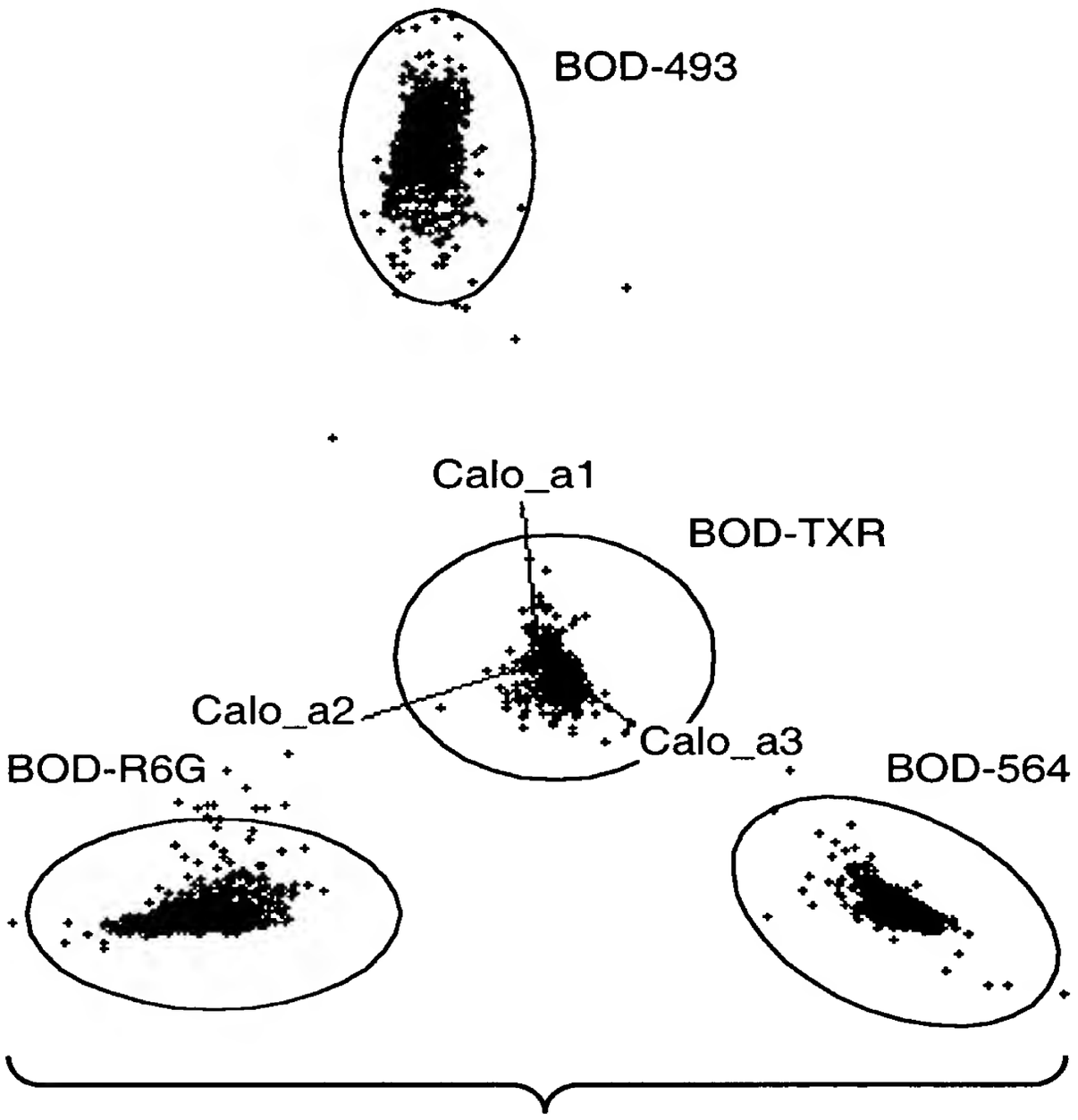

FIG._6

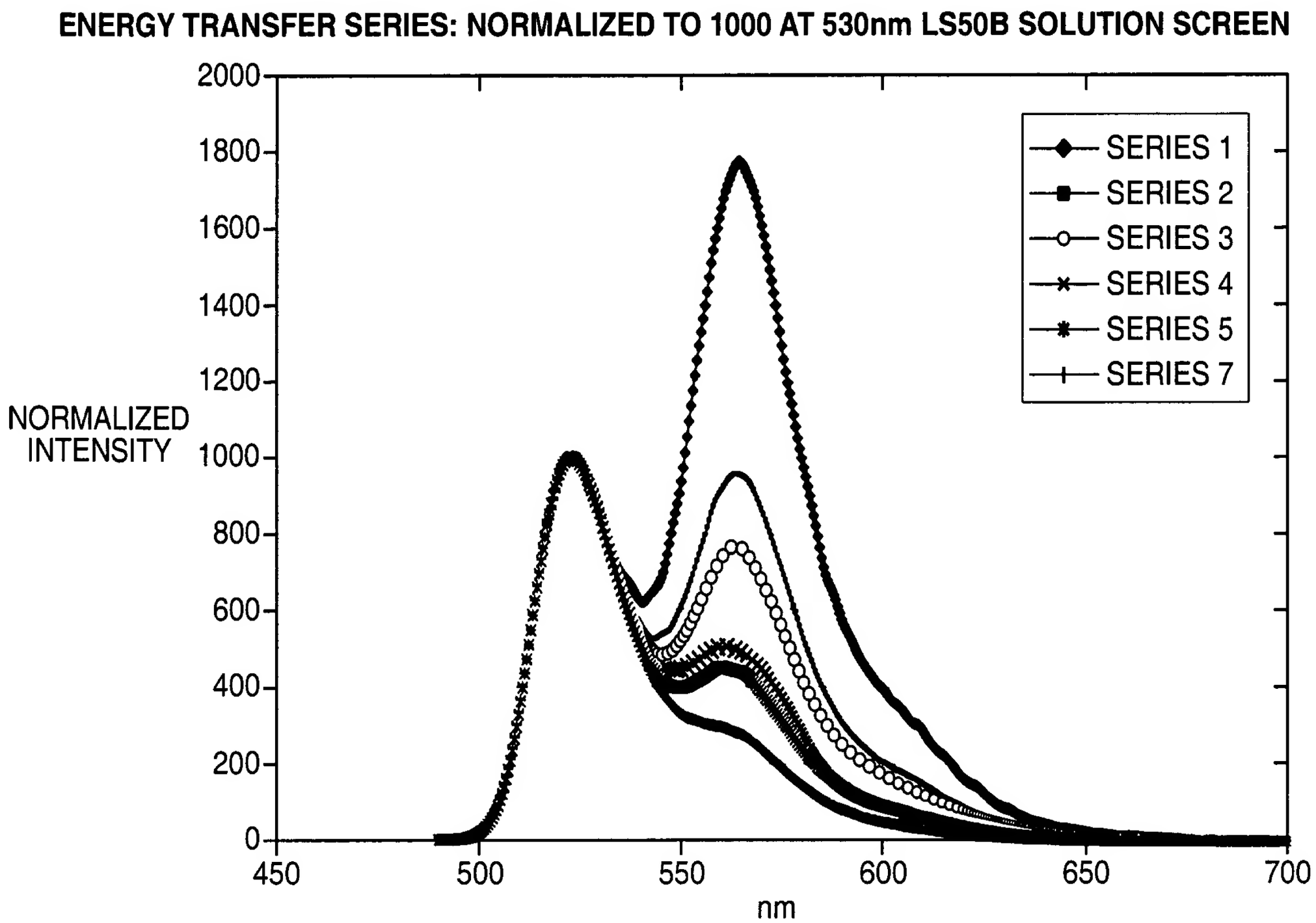

FIG._5

ENERGY TRANSFER EVALUATION 5' LABELING

ET1 T**G*CACGAGAATGGAGGTATCT:SERIES 1
ET2 C**TGTCGC*ACGAGAATGGAGGTATCT:SERIES 2
ET3 C**TGTCGGGGCGC*ACGAGAATGGAGGTATCT:SERIES 3
ET4 C**TGTCGGGGCACTCAC*ACGAGAATGGAGGTATCT:SERIES 4
ET5 C**TGTCGGGGCACTCATTTGTGC*ACGAGAATGGAGGTATCT:SERIES 5
ET7 C**TGTCGGGGCACTCATTTGTCTGTCGGGGCGC*ACGAGAATGGAGGTATCT:SERIES 7
** IS Cy3 AND * IS FLUORESCEIN

BEAD	1 "COLOR" DECODING STAGE 1	STAGE 2	STAGE 3	STAGE 4	CODE	PARITY
1	1	1	1	1	1111	EVEN
	1	1	1		1110	ODD
	1	1		1	1101	ODD
2	1	1			1100	EVEN
	1		1	1	1011	ODD
3	1		1		1010	EVEN
4	1			1	1001	EVEN
	1				1000	ODD
		1	1	1	0111	ODD
5		1	1		0110	EVEN
6		1		1	0101	EVEN
		1			0100	ODD
7			1	1	0011	EVEN
			1		0010	ODD
				1	0001	ODD
8					0000	EVEN

1001 DIGIT SUM = 2, EVEN PARITY

↓

1011 DIGIT SUM = 3, ODD PARITY

FIG._7

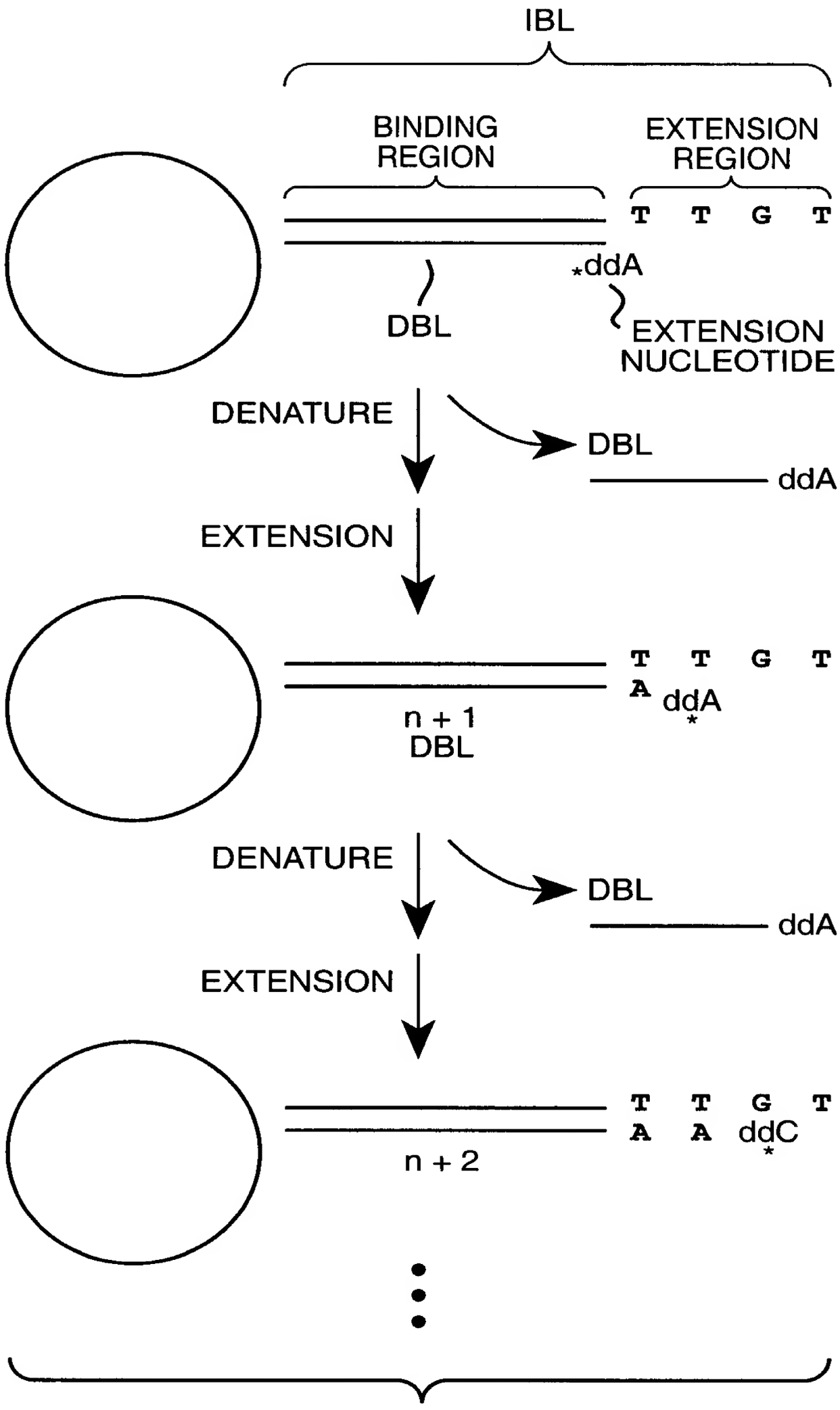

FIG._8

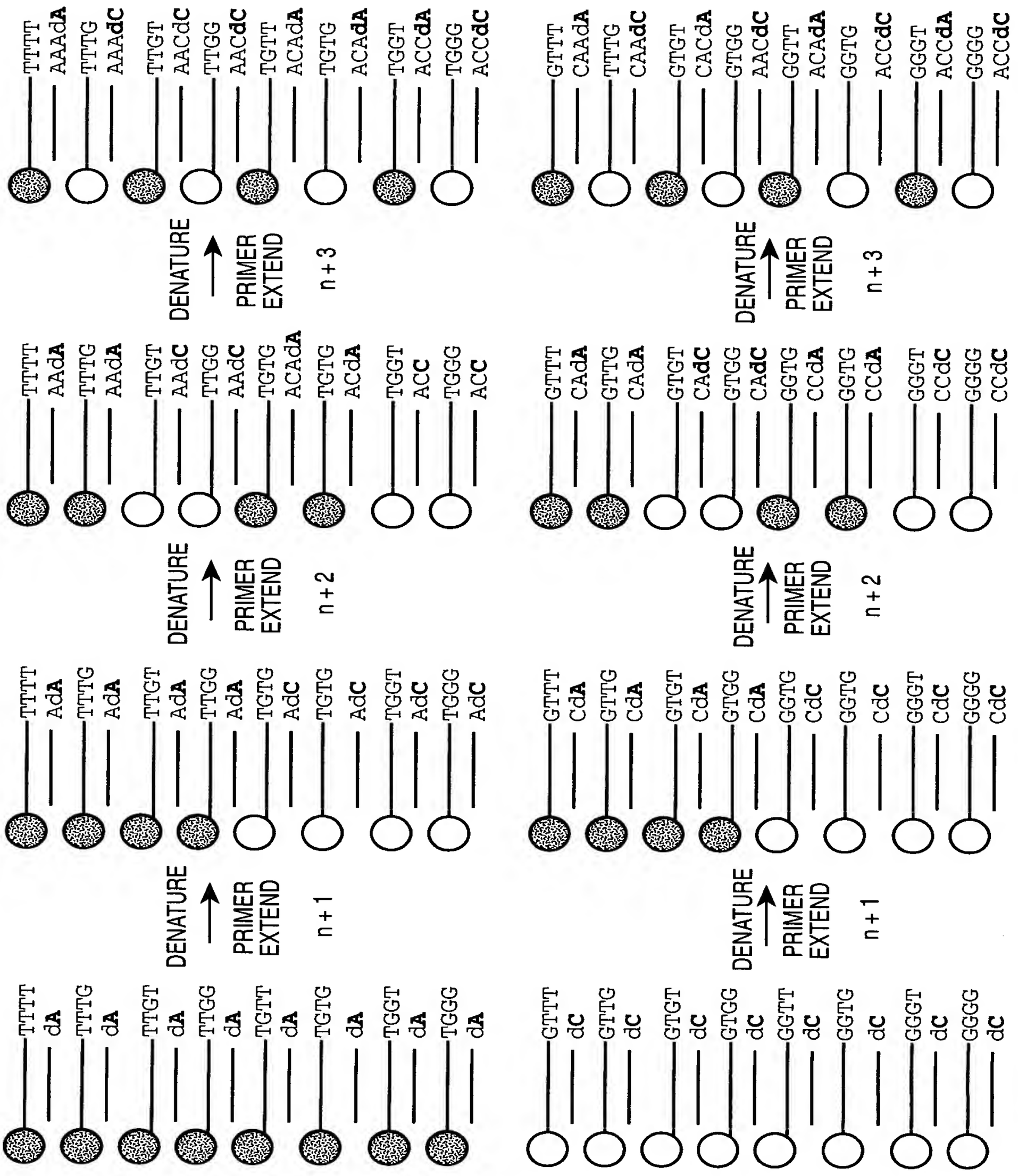

FIG._9

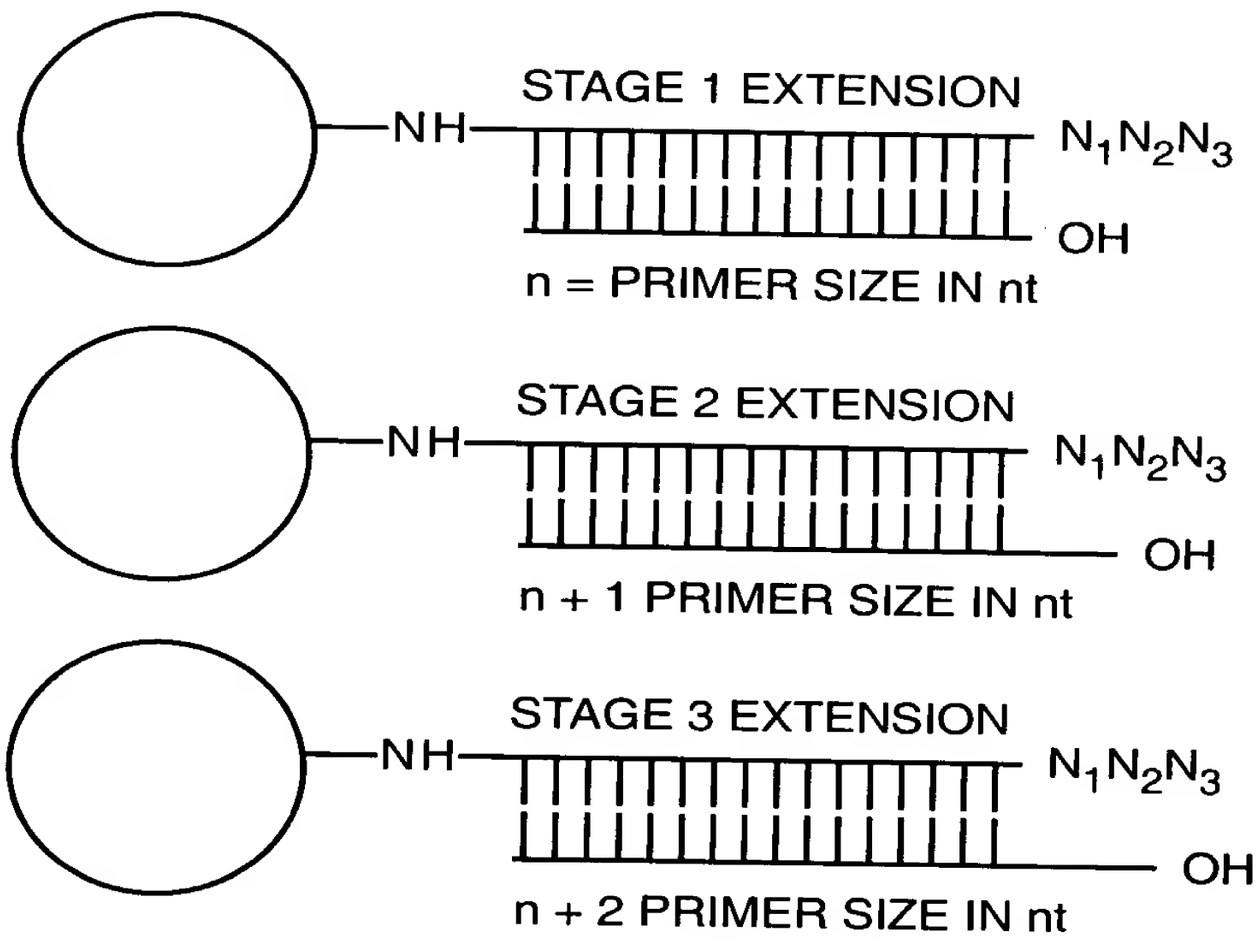

FIG._10

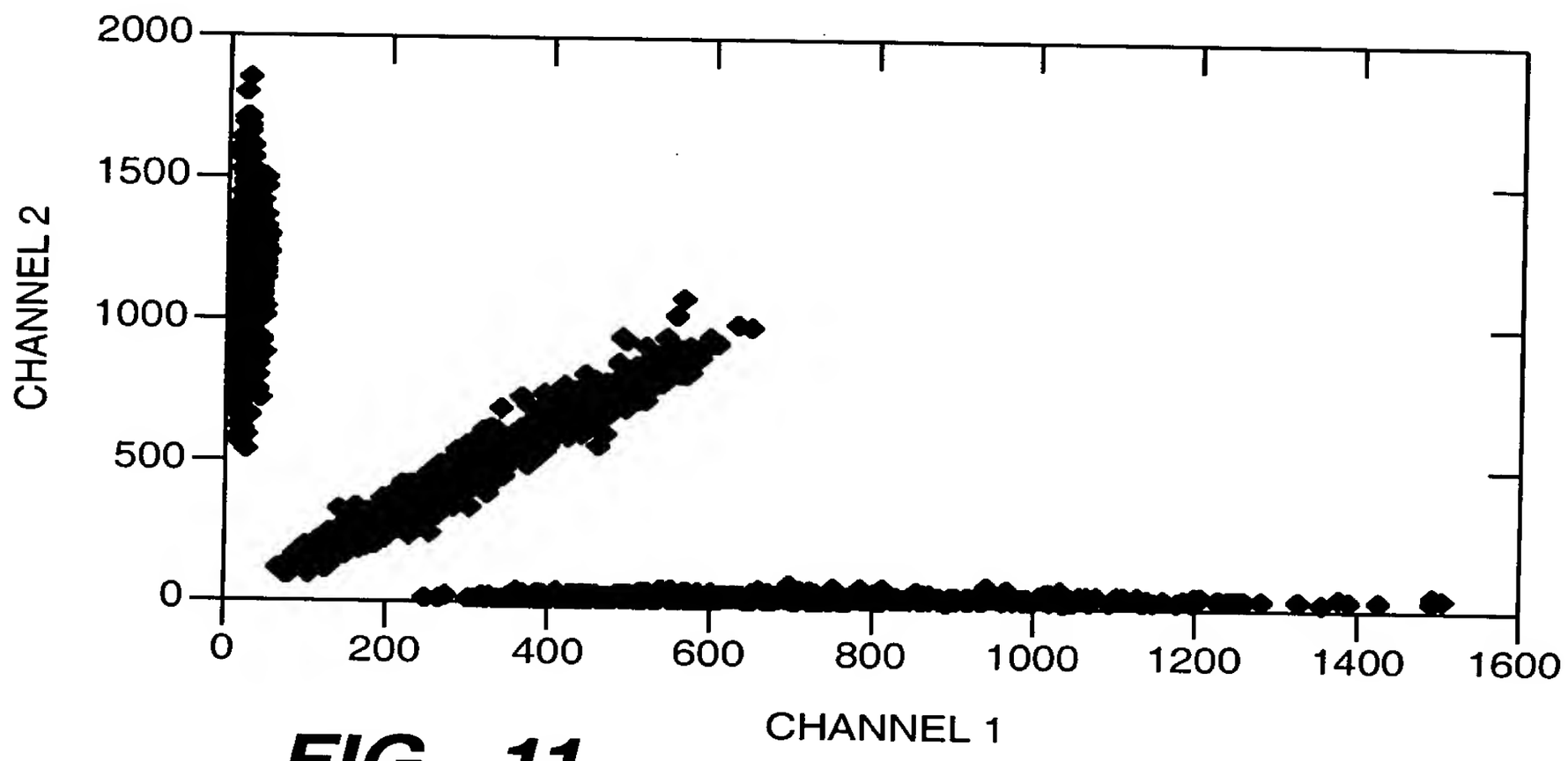

FIG._11